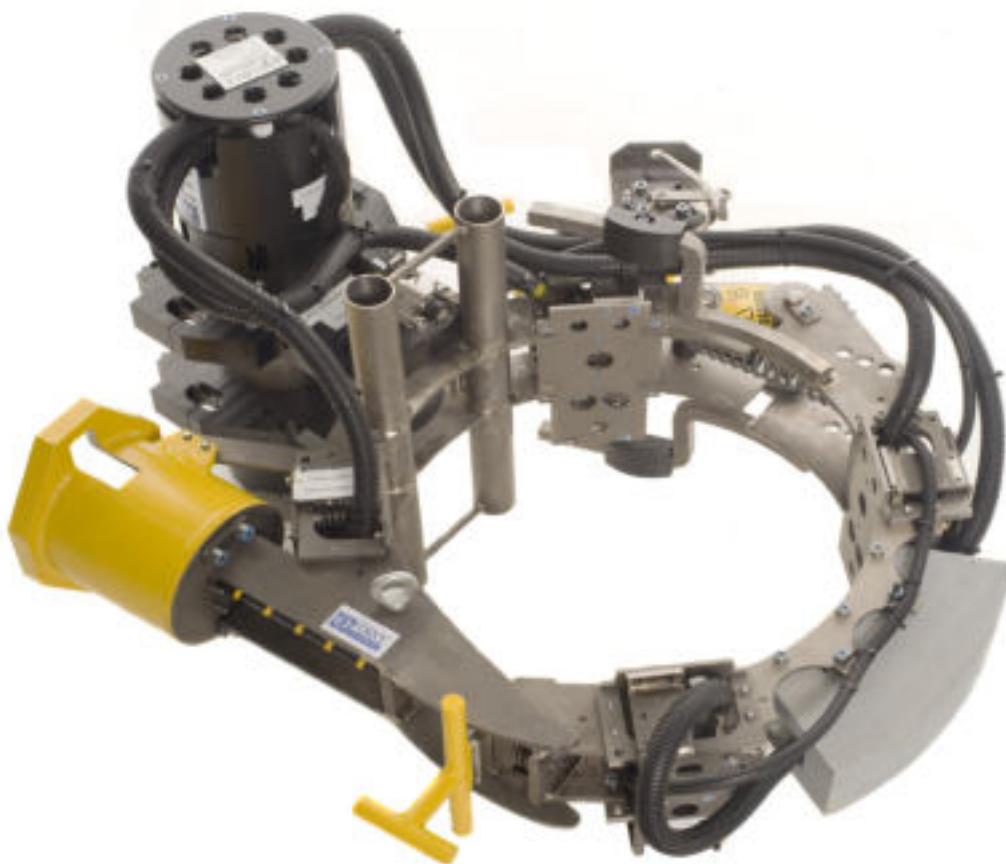


# F-ROV BRACELET

The FORCE ROV bracelet is purpose built for each new application, and depending on pipe or member diameter and measurements to be performed it can be fitted with strain sensors, temperature sensors and accelerometer and rate sensor packages. The bracelet is delivered as steel or titanium unit.

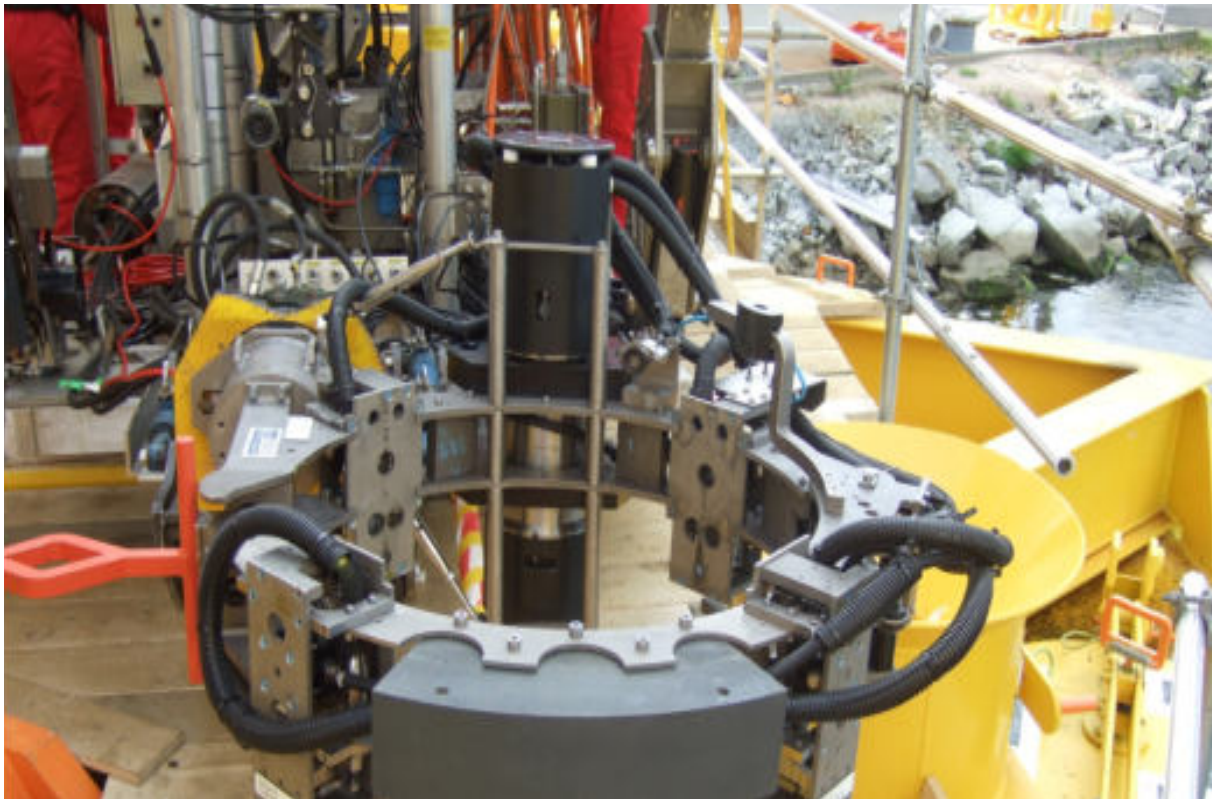


*FORCE ROV bracelet for response monitoring is retrievable and can be retrofitted on existing subsea structures*

## Features

The ROV bracelet enables subsea installation of four strain sensors and an electronic pod fitted to any circular pipe or structural member on existing subsea installation.

- Electronic pod consists of a FORCE MidiDacos data logger supporting strain sensors, temperature sensors, accelerometers and rate sensors.
- Jumper cable with TRONIC free-flying ROV connector
- Standard rotary torque tool receptacle and ROV handles. API 17D, class 4.
- A communication and transport system including the ROV and its umbilical.
- Low weight and small size. Subsea titanium computer-container: Ø190 L=500mm, weight is ~20kg/44lb in air.
- Depth compensated marinised stepper motors.
- Retrievable by ROV subsea.
- Easily interfaced by any work class ROV- Communication through a twisted pair in the ROV umbilical current loop, RS232/RS485 interface.



Unit shown installed on a typical work class ROV torque tool

## Operation

### Pre-dive preparations

Testing of bracelet clamp function and hydraulic release mechanism for sensor activation.

The bracelet is installed in the work class ROV torque tool on deck and the jumper cable placed in its cradle for easy access by the 7-function manipulator.

### Diving

The bracelet is thrust against the pipe by the ROV until it is closed around the pipe. The ROV fixes the bracelet to the pipe by applying torque on the main screw.

The ROV lets go of the torque tool and the hydraulic release mechanism for the strain sensors is activated as the ROV pulls a string backing the ROV away from the bracelet.

## Mechanical design

Unit consisting of a self-erecting bracelet, four strain sensors, a buoyancy device, two standard ROV handles, a rotary torque tool receptacle, a jumper cable and a subsea electronic pod.

The unit size is approximately:

- (Pipe radius + 150mm) x 500 mm

Weight in air is dependent upon pipe dimension. A 24" bracelet in titanium weights 71 kg dry.

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